Author Index to Volume 17

Acierno, D.
—; La Mantia, F. P.; Polizzotti, G.; Ciferri, A.: Bulk Properties of Synthetic Polymer-Inorganic Salt Systems. V. Mechanical Properties of Oriented Poly(Caproamide), 1903
Adachi, H.
—; Adachi, K.; Ishida, Y.; Kotaka, T.: Dielectric Relaxation of Polydimethylsiloxane, 851
Adachi, K. See Adachi, H., 851
Aharoni, S. M.
Rigid Backbone Polymers. I. Polyisocyanides, 683
Akabane, H. See Shimizu, Y., 1495
Aklonis, J. J. See Kovacs, A. J., 1097
Altenberger, A. R.
The Role of Inertial Effects in Macroparticle Diffusion, 1317
Arai, H. See Endo, R., 645
Asai, K. See Saruyama, Y., 1163

Baird, D. G.
—; Ciferri, A.; Krigbaum, W. R.; Salaris, F.: Rheological Study of an Aromatic Polyamide-Hydrazide, 1649
Banerjie, A.
—; Lando, J. B.; Yee, K. C.; Baughman, R. H.: Characterization of the Ladder Polymerization of a Crystalline Cyclotetradiyne Monomer, 655
Barrall, E. M., II. See Gipstein, E., 185
Bassett, D. C. See Olley, R. H., 627
Bastide, J.
—; Picot, C.; Candau, S.: The Influence of Pendent Chains on the Thermodynamic and Viscoelastic Properties of Swollen Networks, 1441
Batchelder, D. N. See Bloor, D., 1355; Young, R. J., 1325
—; Bloor, D.: Strain Dependence of the Vibrational Modes of a Diacetylene Crystal, 569
Baughman, R. H. See Banerjie, A., 655
Bell, D. A. See Harrison, I. R., 63
Benkhoucha, R.
—; Wunderlich, C. C.; Wunderlich, B.: Melting and Crystallization of a Polyphosphate, 2151
Berens, A. R.
—; Hopfenberg, H. B.: Induction and Measurement of Glassy-State Relaxations by Vapor Sorption Techniques, 1757
Bergfjord, J. A.
—; Penwell, R. C.; Stolka, M.: Glass-Transition Temperature–Molecular-Weight Relation for Poly(*N*-Vinylcarbazole) (Note), 711
Berghmans, H. See Gryte, C. C., 1295
—; Govaerts, F.; Overbergh, N.: Gelation and Crystallization of Poly(ethylene Terephthalate-co-Isophthalate), 1251
Berry, G. C. See Goebel, K. D., 917
—; Nakayasu, H.; Fox, T. G: Viscosity of Poly(Vinyl Acetate) and Its Concentrated Solutions, 1825
Bhagat, P. K. See Murthy, V. R. K., 1485
Bianchi, E.
—; Ciferri, A.; Tealdi, A.; Krigbaum, W. R.: Light Scattering Study of an Aromatic Polyamide-Hydrazide Polymer, 2091
Bijsterbosch, B. H. See Scholtens, B. J. R., 1771
Birnboim, M. H.
—; Weiss, H.: A Method for Viscosity Measurements at High Pressures, 2225
Blanks, R. F. See Raju, K., 583
Bloor, D. See Batchelder, D. N., 569; Young, R. J., 1325
—; Kennedy, R. J.; Batchelder, D. N.: Raman Spectroscopic Studies of the Solid-State Polymerization of Diacetylenes. I. Thermal Polymerization of 1,6-di-*p*-Toluenesulfonyloxy-2,4-hexadiyne, 1355
Blumberg, A. A.
—; Niemira, E. R.: Transitions and the Relaxation Spectrograph: Poly(Oxymethylene), 1891
Boileau, S. See Rahalkar, R. R., 1623
Booth, C. See Forget, J. L., 1403
Borch, J.
Effect of Microroughness on Rubber Friction, 2241
Bower, D. I. See Nobbs, J. H., 259
Boyd, R. H. See Yemni, T., 741
—; Sayre, J. A.: Dielectric Evidence for Thermal Creation of Defects in Polyethylene Crystals, 1627
Brew, B.
—; Clements, J.; Davies, G. R.; Jakeways, R.; Ward, I. M.: Dynamic Mechanical and Crystal-Strain Measurements on Ultrahigh Modulus Oriented Polyoxymethylene: A Revised Value for the True Crystal Modulus, 351
Britton, A. T., Jr.
—; Sullivan, J. L.; Smith, K. J., Jr.: Thermoelasticity of Networks in Swelling Equilibrium with Single Component Diluents: Specific Polymer-Diluent Interactions, 1281
Brochard, F.
Viscosities of Dilute Polymer Solutions in Nematic Liquids, 1367
Brown, H. R.
Studies of Orientation and Structure of Crazed Matter in Polystyrene. I. Optical Measurements, 1417
Studies of Orientation and Structure of Crazed Matter in Polystyrene. II. Electron Diffraction Measurements, 1431
Bruneau, C-M. See Durand, D., 273, 295
Butler, I. S. See Neppel, A.. 2145

Calleja, R. D.
Dielectric γ Relaxation in Poly(2-Hydroxyethyl Methacrylate), 1395
Calvert, P.
Polymer Crystallization from the Melt at Large Undercoolings, 1341
Candau, S. See Bastide, J., 1441
Canham, P. H. See Forget, J. L., 1403
Cannon, C. G. See Coombes, A., 1957
Cantaloube, B.
—; Dreyfus, G.; Lewiner, J.: Vapor-Induced Depolarization Currents in Electrets, 95
Capaccio, G. See Clements, J., 693
Carlsson, D. J. See Stepaniak, R. F., 987
Carpenter, R. L. See Kan, H-C., 1855
Casassa, E. F.
Statistical Thermodynamics of Polymer Solutions. VIII. Effect of Intermolecular Correlations on Rayleigh Scattering, 2077
Caviness, E. T. See Theil, M. H., 497
Chance, R. R. See Patel, G. N., 899
Chang, C.
—; Krimm, S.: Longitudinal Acoustic Mode in Polymers. V. Nature of Perturbing Forces in *n*-Paraffins and Polymers, 2163
Chanzy, H. D. See Stamhuis, J. E., 1033

Chapoy, L. L.
—; Kops, J.; Vayl[illegible]n Dynamics of End-Group M[illegible]ystyrenes as Studied by Fluorescenc[illegible]arization, 961
Charlesworth, J. M.
Mechanical Relaxations in Episulfide Network Polymers, 329
Structure of Diepoxide–Diamine Network Polymers. I. Average Network Properties, 1557
Structure of Diepoxide–Diamine Network Polymers. II. Soluble Chemical Species, 1571
Chen, F. C. See Choy, C. L., 87
Choy, C. L.
—; Leung, W. Y.; Chen, F. C.: Heat Capacity of Poly(vinylidene Fluoride) and Polytetrafluoroethylene between 5 and 200°K, 87
Ciferri, A. See Acierno, D., 1903; Baird, D. G., 1649; Bianchi, E., 2091
Claiborne, C.
—; Crist, B.: Light Scattering by Glassy Polystyrene (Note), 719
Clements, J. See Brew, B., 351
—; Capaccio, G.; Ward, I. M.: Melting Behavior of Ultrahigh Modulus Linear Polyethylene, 693
Cohen, C.
—; Tanny, G. B.; Prager, S.: Diffusion-Controlled Formation of Porous Structures in Ternary Polymer Systems, 477
Cohen, J. B. See Crist, B., 1001
Coleman, B. D.
—; Zapas, L. J.: Theory of the Instability and Failure of Viscoelastic Materials in Tension, 2215
Coleman, M. M. See Holland-Moritz, K., 25; Petcavich, R. J., 165
—; Zarian, J.: Fourier-Transform Infrared Studies of Polymer Blends. II. Poly(ε-Caprolactone)–Poly(vinyl Chloride) System, 837
Conte, G.
—; D'Ilario, L.; Pavel, N. V.; Giglio, E.: Chain Folding in Crystalline Syndiotactic Poly(Vinyl Chloride), 753
Coombes, A.
—; Keller, A.: Oriented Polymers from Solution. I. A Novel Method for Producing Polyethylene Films, 1637
—; Cannon, C. G.; Keller, A.: Oriented Polymers From Solution. II. Fibers and Films of Polyethylene/Polypropylene Blends, 1957
Cowking, A.
—; Munro, F.: Deformation and Structure of Doubly Oriented Polyethylene, 357
Crist, B. See Claiborne, C., 719
—; Cohen, J. B.: Fourier Analysis of Polymer X-Ray Diffraction Patterns, 1001
Croucher, M. D.
—; Schreiber, H. P.: A Study of the Surface Characteristics of Solvent Cast Poly(methyl Methacrylate) (Note), 1269
Cudby, M. E. A. See Cutler, D. J., 907
Cuniberti, C. See Perico, A., 1983
—; Perico, A.; Musi, L.: Hydrodynamic Interaction Effects on Intrinsic Viscosity of Perturbed Chains: Experimental Results for Polystyrene, 213
Cutler, D. J.
—; Glotin, M.; Hendra, P. J.; Jobic, H.; Cudby, M. E. A.; Willis, H. A.; Holland-Moritz, K.: Linear Polyethylene in a Glassy Phase: The Value of the Glass-Transition Temperature, 907

Daoud, M.
—; De Gennes, P. G.: Some Remarks on the Dynamics of Polymer Melts, 1971
Datyner, A. See Pace, R. J., 437, 453, 465, 1675, 1693
Davies, G. R. See Brew, B., 351
De Gennes, P. G. See Daoud, M., 1971; Joanny, J. F., 1073
Desper, C. R. See Mead, W. T., 859
DiBenedetto, A. T. See Narkis, M., 225
D'Ilario, L. See Conte, G., 753
Djudovic, P. See Holland-Moritz, K., 25
Domard, A.
—; Rinaudo, M.; Rochas, C.: Application of Gel Permeation Chromatography to Polyelectrolytes: Salt Rejection Mechanism and Molecular-Weight Distribution, 673
Dorset, D. L.
Evaluation of the Mosaic Model for Polymer Single Crystals, 1797
Dreyfus, G. See Cantaloube, B., 95
Duda, J. L. See Vrentas, J. S., 1085
Duggleby, M. See Forget, J. L., 1403
Dulniak, R. See Young, R. J., 1325
Durand, D.
—; Bruneau, C-M.: Reactivity and Gelation. I. Intrinsic Reactivity, 273
—; Bruneau, C-M.: Reactivity and Gelation. II. Substitution Effect, 295

Eguiluz, M.
—; Ishida, H.; Hiltner, A.: Infrared Analysis of Brominated Polyethylene Single Crystals (Note), 893
Einaga, Y.
—; Miyaki, Y.; Fujita, H.: Intrinsic Viscosity of Polystyrene, 2103
Eisenberg, A. See Neppel, A., 2145; Rouse, G. B., 81
Endo, R.
—; Goto, A.; Okano, H.; Arai, H.: Solution Behavior of [(Ethylene-co-Vinyl Alcohol)-*g*-Ethylene Oxide] Graft Copolymers, 645

Ferry, J. D. See Kan, H-C., 1855
Fischer, E. W. See Kalepky, U., 2117
Fleming, W. W.
—; Fornes, R. E.; Memory, J. D.: Evidence of Distinct Water Species in Cellulosic Environments From Broad-Line NMR, 199
Flory, P. J. See Pak, H., 1845
Forget, J. L.
—; Booth, C.; Canham, P. H.; Duggleby, M.; King, T. A.; Price, C.: Characterization of Poly(Styrene-co-Divinylbenzene) Microgels, 1403
Fornes, R. E. See Fleming, W. W., 199
Fox, T. G. See Berry, G. C., 1825
Fujita, H. See Einaga, Y., 2103
Fujita, S. See Ito, T., 1237
Fukushima, H. See Ikada, E., 1789

Garton, A. See Stepaniak, R. F., 987
Geny, F.
—; Monnerie, L.: Simulation of the Brownian Motion of Macromolecular Chains. I. Local Motions and Chain Conformations, 131
—; Monnerie, L.: Simulation of the Brownian Motion of Macromolecular Chains. II. Chain Dynamics, 147
—; Monnerie, L.: Simulation of Coordinated Motions in Mac[illegible]nolecular Chains (Note), 173
Gibson, A. G.
—; Holt, J. S.; Hope, P. S.: Factors Affecting Stress Transmission in Crystalline Polymers, 1375
Giglio, E. See Conte, G., 753
Gipstein, E.
—; Barrall, E. M., II; Yoon, D. Y.; Lyerla, J.: Thermal Properties of Some Hydrogenated Poly(α-Methyl Styrenes) (Erratum), 185
Gleiter, H. See Petermann, J., 55, 1043
Glotin, M. See Cutler, D. J., 907
Goebel, K. D.
—; Berry, G. C.; Tanner, D. W.: Properties of Cellulose Acetate. III. Light Scattering from Concentrated Solutions and Films. Tensile Creep and Desalination Studies on Films, 917
Gohil, R. M.
—; Petermann, J.: The Structure of Ultradrawn Polyethylene (Note), 525
Goldwasser, D. J.
Study of the Morphology of Segmented Block Elastomers by Pulsed Proton NMR (Note), 1465

Gordon, J. M. See Reich, S., 371
Electric Field Dependence of the Glass Temperature (Note), 169
Goto, A. See Endo, R., 645
Govaerts, F. See Berghmans, H., 1251
Graessley, W. W. See Rachapudy, H., 1211; Raju, V. R., 1183, 1223; Rochefort, W. E., 1197
Gryte, C. C.
—; Berghmans, H.; Smets, G.: Characterization of the Crystallization Behavior of the Eutectic-Forming Binary System Polyoxyethylene and Glutaric Acid. I. Melting and Crystallization Behavior, 1295
Gupta, V. B.
—; Kumar, S.: Intrinsic Birefringence of Poly(ethylene Terephthalate), 1307
—; Kumar, S.: Orientation Distribution of Crystallites in Polyethylene Terephthalate Fibers (Note), 179

Handa, T. See Ishii, T., 811
Harget, P. J.
—; Oswald, H. J.: Birefringence in Amorphous Polyethylene Terephthalate Fibers (Note), 531
Harrison, I. R.
—; Juska, T.: Estimations of Fold Surface Densities Using Space-Filling Models, 491
—; Runt, J.: The Heating Rate Dependence of Polymer Melting Points, 321
—; Runt, J.; Stanislow, L. J.; Bell, D. A.: The Heat of Fusion of Polymer Crystals: Polyethylene Crystals in Suspension, 63
Hay, J. N.
—; Przekop, Z. J.: Extensions of the Avrami Equation to Various Polymer Crystallization Models, 951
Hayashi, S.
—; Ikuma, S.; Okuyama, K.; Kajiyama, T.; Takayanagi, M.: Molecular Characterization and Glassy-State Properties of Poly(Spiro[2,4]Hepta-4,6-Diene), 1995
Hemery, P. See Rahalkar, R. R., 1623
Hendra, P. J. See Cutler, D. J., 907
Hendricks, R. W. See McCready, M. J., 725
Herchenroder, P. See Kalepky, U., 2117
Hiltner, A. See Eguiluz, M., 893
Hirano, T.
—; Sato, A.; Tsuruta, T.; Johnson, W. C., Jr.: Optical Rotatory Dispersion and Vacuum Ultraviolet Circular Dichroism of Poly[(*R*)-Oxypropylene], 1601
Hirata, T. See Ito, T., 1237
Hodge, A. M. See Olley, R. H., 627
Holland-Moritz, K. See Cutler, D. J., 907
—; Sausen, E.: Vibrational Spectra and Normal Coordinate Analysis of Isotactic Poly(alkyl Ethylene)s. I. Modification I of Poly(ethyl Ethylene) and Its Deuterated Derivatives, 1
—; Sausen, E.; Djudovic, P.; Coleman, M. M.; Painter, P. C.: Vibrational Spectra and Normal Coordinate Analysis of Isotactic Poly(alkyl Ethylene)s. II. Modification I of Poly(propyl Ethylene) and Its Deuterated Derivatives, 25
Holt, J. S. See Gibson, A. G., 1375
Hope, P. S. See Gibson, A. G., 1375
Hopfenberg, H. B. See Berens, A. R., 1757
Hopfinger, A. J. See Rudnick, J., 311
Horta, A. See Llorente, M. A., 189
Hoshino, S. See Inoue, K., 1517
Hutchinson, J. M. See Kovacs, A. J., 1097, 2031

Iisaka, K.
—; Nishimoto, Y.; Shibayama, K.: Kinetics of Craze Initiation in Polystyrene in *N*-Alcohols, 791
Ikada, E.
—; Fukushima, H.; Watanabe, T.: Dielectric Properties of Oligomers. VII. Low-Molecular-Weight Propylene Glycols, 1789
Ikuma, S. See Hayashi, S., 1995
Inagaki, H. See Suehiro, S., 763
Inoue, K. See Takahashi, T., 115
—; Hoshino, S.: Thermal Properties of Polyamides Containing 1,3-Cyclohexane Rings, 1517
Ishida, H. See Eguiluz, M., 893
—; Koenig, J. L.: An Investigation of the Coupling Agent/Matrix Interface of Fiberglass Reinforced Plastics by Fourier Transform Infrared Spectroscopy, 615
—; Koenig, J. L.: Molecular Organization of the Coupling Agent Interphase of Fiber-Glass Reinforced Plastics, 1807
Ishida, Y. See Adachi, H., 851
Ishii, T.
—; Handa, T.; Matsunaga, S.: Steric Effects on Excimer Formation in Isotactic and Atactic Polystyrene and Poly(ar-Methylstyrene)s in Solution, 811
Ishikawa, K. See Shimizu, Y., 1495
Ito, T.
—; Hirata, T.; Fujita, S.: Effect of Hydrogen Bonding on the Anisotropy of the Hydrostatic Compressibility of Polymer Crystals, 1237
Ivory, D. M. See Patel, G. N., 899
Iwamoto, H. See Takahashi, T., 115
Iwamoto, R.
—; Miya, M.; Mima, S.: Determination of Crystallinity of Swollen Poly(Vinyl Alcohol) by Laser Raman Spectroscopy, 1507

Jain, R. K. See Simha, R., 183
—; Simha, R.: Equation of State of Semicrystalline and Crystalline Polymers, 1929
Jakeways, R. See Brew, B., 351
Jarecki, L.
—; Meier, D. J.: Ultrahigh Modulus Polyethylene. II. Effect of Drawing Temperature on Void Formation and Modulus, 1611
Jasse, B.
—; Koenig, J. L.: Fourier Transform Infrared Study of Uniaxially Oriented Atactic Polystyrene, 799
Joanny, J. F.
—; Leibler, L.; de Gennes, P. G.: Effects of Polymer Solutions on Colloid Stability, 1073
Jobic, H. See Cutler, D. J., 907
Johnson, W. C., Jr. See Hirano, T., 1601
Juska, T. See Harrison, I. R., 491

Kadaba, P. K. See Murthy, V. R. K., 1485
Kajiyama, T. See Hayashi, S., 1995
Kalepky, U.
—; Fischer, E. W.; Herchenroder, P.; Schelten, J.; Lieser, G.; Wegner, G.: Characterization of Semicrystalline Random Copolymers by Small-Angle Neutron Scattering, 2117
Kan, H-C.
—; Carpenter, R. L.; Ferry, J. D.: Entanglement Networks of 1,2-Polybutadiene Crosslinked in States of Strain. VII. Stress-Birefringence Relations, 1855
Kanamoto, T.
—; Zachariades, A. E.; Porter, R. S.: Solid-State Coextrusion of High-Density Polyethylene. I. Effects of Geometric Factors, 2171
Kawagoe, M. See Kitagawa, M., 663
Kawai, H. See Suehiro, S., 763
Keller, A. See Coombes, A., 1637, 1957
Kennedy, R. J. See Bloor, D., 1355
Khanna, Y. P. See Patel, G. N., 899
Kilian, H.-G.
—; Maier, E.: Thermodynamics of Swollen, Partially Crystallized Pseudoeutectoid Copolymers of Ethylene, 1531
Kimura, T. See Kurata, M., 2133
King, T. A. See Forget, J. L., 1403
Kishi, J. See Misaki, T., 1275
Kitagawa, M.
—; Kawagoe, M.: Creep Deformation Caused by Crazing, 663
Kluge, W. See Petermann, J., 1043
Knox, J. R. See Raju, V. R., 1183
Koberstein, J.
—; Russell, T. P.; Stein, R. S.: Total Integrated Light-Scattering Intensity from Polymeric Solids, 1719
Koenig, J. L. See Ishida, H., 615, 1807; Jasse, B., 799; Stambaugh, B., 1053, 1063

Kolbeck, A. G.
—; Uhlmann, D. R.: Characteristics of Solid-State Extruded Polyethylene, 421
Komoroski, R. A.
Chain Mobility of Some Terephthalic Acid Polyesters in Solution. A ^{13}C Spin-Relaxation Study, 45
Kops, J. See Chapoy, L. L., 961
Kosugi, Y. See Usami, T., 1413
Kotaka, T. See Adachi, H., 851
Kovacs, A. J.
—; Hutchinson, J. M.: Isobaric Thermal Behavior of Glasses During Uniform Cooling and Heating: Dependence of the Characteristic Temperatures on the Relative Contributions of Temperature and Structure to the Rate of Recovery. II. A One-Parameter Model Approach, 2031
—; Aklonis, J. J.; Hutchinson, J. M.; Ramos, A. R.: Isobaric Volume and Enthalpy Recovery of Glasses. II. A Transparent Multiparameter Theory, 1097
Kratochvil, P.
—; Strakova, D.; Podesva, J.: Light Scattering Characterization of Thermodynamic Interaction of Polymers in Dilute Solution. Effect of Solvent and Molecular Weight, 945
Kraus, G. See Stacy, C. J., 2007
Krigbaum, W. R. See Baird, D. G., 1649; Bianchi, E., 2091; Lader, H. J., 1661
—; Taga, T.: Orientation of the Remaining Amorphous Chains during Crystallization: Isotactic Polystyrene, 393
Krimm, S. See Chang, C., 2163
Kubo, M. See Magoshi, J., 515
Kumanotani, J. See Oshima, R., 379
Kumar, S. See Gupta, V. B., 179, 1307
Kurata, M.
—; Kimura, T.: Chain Conformations of Block Copolymers, 2133
Kyotani, M.
Solution Crystallization of Nylon 6, 103
Kyu, T. See Suehiro, S., 763

Lader, H. J.
—; Krigbaum, W. R.: Thermal Behavior of Co[Poly(Ethylene Terephthalate)-*p*-Oxybenzoate], 1661
La Mantia, F. P. See Acierno, D., 1903
Lando, J. B. See Banerjie, A., 655; Stambaugh, B., 1053, 1063
Legras, R.
—; Mercier, J. P.: Crystallization of Bisphenol-*A* Polycarbonate. III. Spherulitic Growth Rate of the Plasticized Polymer, 1171
Leibler, L. See Joanny, J. F., 1073
Leung, W. Y. See Choy, C. L., 87
Lewiner, J. See Cantaloube, B., 95
Lieser, G. See Kalepky, U., 2117
Lin, J. S. See McCready, M. J., 725
Lindenmeyer, P. H.
Polymer Solidification as a Dissipative Process, 1965
Lindsey, C. P.
—; Patterson, G. D.; Stevens, J. R.: Photon Correlation Spectroscopy of Polystyrene near the Glass-Rubber Relaxation, 1547
Litt, M. See Rudnick, J., 311
Llorente, M. A.
—; Menduina, C.; Horta, A.: Inverse Gas Chromatography of Poly(cyclohexyl Methacrylate), 189
Lyerla, J. See Gipstein, E., 185

Magill, J. H.
—; Peddada, S.: Melting and Crystallization of IUPAC Low-Density Polyethylenes—Characterization by Differential Scanning Calorimetry, 1947
Magoshi, J.
—; Mizuide, M.; Magoshi, Y.; Takahashi, K.; Kubo, M.; Nakamura, S.: Physical Properties and Structure of Silk. VI. Conformational Changes in Silk Fibroin Induced by Immersion in Water at 2 to 130°C, 515
Magoshi, Y. See Magoshi, J., 515
Maier, E. See Kilian, H.-G., 1531
Mandelkern, L.
—; Maxfield, J.: Morphology and Properties of Low-Density (Branched) Polyethylene, 1913
Marin, G. See Raju, V. R., 1183
Mark, J. E. See Rahalkar, R. R., 1623; Riande, E., 2013
Markovitz, H. See Plazek, D. J., 2189
Matsunaga, S. See Ishii, T., 811
Maxfield, J. See Mandelkern, L., 1913
McCready, M. J.
—; Schultz, J. M.; Lin, J. S.; Hendricks, R. W.: Effect of Crystallization Time on the Properties of Melt-Crystallized Linear Polyethylene, 725
McHugh, A. J. See Silebi, C. A., 1469
Mead, W. T.
—; Desper, C. R.; Porter, R. S.: Physical and Mechanical Properties of Ultra-Oriented High-Density Polyethylene Fibers, 859
Meier, D. J. See Jarecki, L., 1611
Memory, J. D. See Fleming, W. W., 199
Menduina, C. See Llorente, M. A., 189
Mercier, J. P. See Legras, R., 1171
Miles, M. See Petermann, J., 55
Mima, S. See Iwamoto, R., 1507
Misaki, T.
—; Kishi, J.: Effect of Craze Appearance on Mechanical Properties of Polysulfone (Note), 1275
Misra, A.
—; Stein, R. S.: Stress-Induced Crystallization of Poly(ethylene Terephthalate), 235
Miya, M. See Iwamoto, R., 1507
Miyaji, H. See Saruyama, Y., 1163
Miyaki, Y. See Einaga, Y., 2103
Miyasaka, K. See Shimizu, Y., 1495
Mizuide, M. See Magoshi, J., 515
Monnerie, L. See Geny, F., 131, 147, 173
Moszkowicz, M. J.
—; Rosen, S. L.: Kinetics of Two-Phase Bulk Polymerization. III. The Influence of a Second Polymer on Intrinsic Viscosity (Note), 715
Munro, F. See Cowking, A., 357
Murthy, V. R. K.
—; Kadaba, P. K.; Bhagat, P. K.: Dielectric Relaxation in Some Polyacrylate Solutions, 1485
Musi, L. See Cuniberti, C., 213

Nakamura, S. See Magoshi, J., 515
Nakamura, T. See Sasaki, S., 825
Nakayasu, H. See Berry, G. C., 1825
Narkis, M.
—; Siegmann, A.; Puterman, M.; DiBenedetto, A. T.: Glassy Polymer Solutions: Morphology of *in situ* Crystallized Additives, 225
Neppel, A.
—; Butler, I. S.; Eisenberg, A.: Raman Spectra of Styrene-Sodium Methacrylate Copolymers—Evidence for Ion Clustering, 2145
Nielsen, L. E.
Dynamic Mechanical Properties of Polymers Filled with Agglomerated Particles, 1897
Niemira, E. R. See Blumberg, A. A., 1891
Nishimoto, Y. See Iisaka, K., 791
Nobbs, J. H.
—; Bower, D. I.; Ward, I. M.: Comparison of Polarized Fluorescence with Polarized Raman and Infrared Dichroism Measures of Orientation in Uniaxially Drawn Poly(ethylene Terephthalate), 259
Nomura, S. See Suehiro, S., 763

Okano, H. See Endo, R., 645
Okuyama, K. See Hayashi, S., 1995
Olley, R. H.
—; Hodge, A. M.; Bassett, D. C.: A Permanganic Etchant for Polyolefines, 627
Orbon, S. J.
—; Plazek, D. J.: Recoverable Compliance of a Series of Bimodal Molecular Weight Blends of Polystyrene, 1871

Oshima, R.
—; Kumanotani, J.: Molecular Motion in Poly(L-Histidine) in the Solid State, 379
Oswald, H. J. See Harget, P. J., 531
Overbergh, N. See Berghmans, H., 1251

Pace, R. J.
—; Datyner, A.: Statistical Mechanical Model for Diffusion of Simple Penetrants in Polymers. I. Theory, 437
—; Datyner, A.: Statistical Mechanical Model for Diffusion of Simple Penetrants in Polymers. II. Applications—Nonvinyl Polymers, 453
—; Datyner, A.: Statistical Mechanical Model for Diffusion of Simple Penetrants in Polymers. III. Applications—Vinyl and Related Polymers, 465
—; Datyner, A.: Statistical Mechanical Model of Diffusion of Complex Penetrants in Polymers. I. Theory, 1675
—; Datyner, A.: Statistical Mechanical Model of Diffusion of Complex Penetrants in Polymers. II. Applications, 1693
Painter, P. C. See Holland-Moritz, K., 25; Petcavich, R. J., 165
Pak, H.
—; Flory, P. J.: Relationship of Stress to Uniaxial Strain in Crosslinked Poly(dimethylsiloxane) over the Full Range from Large Compressions to High Elongations, 1845
Patel, C. K. See Vyas, N. G., 2021
Patel, G. N.
—; Khanna, Y. P.; Ivory, D. M.; Sowa, J. M.; Chance, R. R.: Polymer Conversions in the γ-ray Polymerization of Urethane-Substituted Diacetylenes (Note), 899
Studies on Partially Polymerized 2,4-Hexadiyn-1,6-*bis*(*p*-Toluenesulfonate), 1591
Patel, R. D. See Vyas, N. G., 2021
Patterson, G. D. See Lindsey, C. P., 1547
Pavel, N. V. See Conte, G., 753
Peddada, S. See Magill, J. H., 1947
Peng, S. T. J.
The Elastic Potential Function of Slightly Compressible Rubberlike Materials, 345
Pennings, A. J. See Stamhuis, J. E., 1033
—; Zwijnenburg, A.: Longitudinal Growth of Polymer Crystals from Flowing Solutions. VI. Melting Behavior of Continuous Fibrillar Polyethylene Crystals, 1011
Penwell, R. C. See Bergfjord, J. A., 711
Perico, A. See Cuniberti, C., 213
—; Cuniberti, C.: Transport Properties in Concentrated Polymer Solutions, 1983
Petcavich, R. J.
—; Painter, P. C.; Coleman, M. M.: Fourier-Transform Infrared Studies on the Thermal Degradation of Poly-α-Deuteroacrylonitrile under Reduced Pressure (Note), 165
Peterlin, A.
Diffusion with Discontinuous Swelling. V. Type II Diffusion into Sheets and Spheres, 1741
Petermann, J. See Gohil, R. M., 525
—; Kluge, W.; Gleiter, H.: Electron Microscopic Investigation of the Molecular Mechanism of Plastic Deformation of Polyethylene and Isotactic Polystyrene Crystals, 1043
—; Miles, M.; Gleiter, H.: The Crystalline Core of the Row Structures in Isotactic Polystyrene. I. Nucleation and Growth, 55
Phillips, P. J.
—; Sorenson, D.: Crystallization in Guayule Rubber (Note), 521
The Relation Between Dilatometric and Dielectric Glass-Transition Temperatures, 409
Picot, C. See Bastide, J., 1441
Pillai, P. K. C.
—; Rashmi: Thermally Stimulated Discharge Currents from Polystyrene-Chloranil Complex, 1731
Plazek, D. J. See Orbon, S. J., 1871
—; Riande, E.; Markovitz, H.; Raghupathi, N.: Concentration Dependence of the Viscoelastic Properties of Polystyrene-Tricresyl Phosphate Solutions, 2189
Podesva, J. See Kratochvil, P., 945
Polizzotti, G. See Acierno, D., 1903
Porter, R. S. See Kanamoto, T., 2171; Mead, W. T., 859
Powell, R. L.
—; Schwarz, W. H.: Geometrical Effects in the Measurements of Mechanical Properties in Parallel Superposed Flows, 969
Prager, S. See Cohen, C., 477
Price, C. See Forget, J. L., 1403
Przekop, Z. J. See Hay, J. N., 951
Puterman, M. See Narkis, M., 225
Pyun, C. W.
Ratios of Average Molecular Weights and Molecular Weight Distributions in Polymers, 2111

Rabolt, J. F.
Hydrogen Bonding Effects on the Skeletal Optical and the Longitudinal Acoustical Modes in Long Chain Molecules and Polymers, 1457
Rachapudy, H. See Raju, V. R., 1223; Rochefort, W. E., 1197
—; Smith, G. G.; Raju, V. R.; Graessley, W. W.: Properties of Amorphous and Crystallizable Hydrocarbon Polymers. III. Studies of the Hydrogenation of Polybutadiene, 1211
Raghupathi, N. See Plazek, D. J., 2189
Rahalkar, R. R.
—; Mark, J. E.; Boileau, S.; Hemery, P.; Riande, E.: Viscosity-Temperature Coefficients for Isotactic and Atactic Poly(Propylene Sulfide) in an Athermal Solvent (Note), 1623
Raju, K.
—; Blanks, R. F.: Effect of the Solvent upon the Diffusion Coefficient of Polydisperse Polystyrene and Styrene-Acrylonitrile Copolymer in Dilute Solution, 583
Raju, V. R. See Rachapudy, H., 1211; Rochefort, W. E., 1197
—; Smith, G. G.; Marin, G.; Knox, J. R.; Graessley, W. W.: Properties of Amorphous and Crystallizable Hydrocarbon Polymers. I. Melt Rheology of Fractions of Linear Polyethylene, 1183
—; Rachapudy, H.; Graessley, W. W.: Properties of Amorphous and Crystallizable Hydrocarbon Polymers. IV. Melt Rheology of Linear and Star-Branched Hydrogenated Polybutadiene, 1223
Ramos, A. R. See Kovacs, A. J., 1097
Rashmi. See Pillai, P. K. C., 1731
Reich, S.
—; Gordon, J. M.: Electric Field Dependence of Lower Critical Phase Separation Behavior in Polymer–Polymer Mixtures, 371
Riande, E. See Plazek, D. J., 2189; Rahalkar, R. R., 1623
—; Mark, J. E.: Random-Coil Configurations of the Polyformals $[CH_2—O—(CH_2)fiy—O—]$. II. Dipole Moments of Poly(1,3–Dioxepane) $[CH_2—O—(CH_2)_4—O—]$, 2013
Rinaudo, M. See Domard, A., 673
Risen, W. M., Jr. See Rouse, G. B., 81
Robertson, R. E.
Effect of Free Volume Fluctuations on Polymer Relaxation in the Glassy State. II. Calculated Results, 597
Rochas, C. See Domard, A., 673
Rochefort, W. E.
—; Smith, G. G.; Rachapudy, H.; Raju, V. R.; Graessley, W. W.: Properties of Amorphous and Crystallizable Hydrocarbon Polymers. II. Rheology of Linear and Star-Branched Polybutadiene, 1197
Rosen, S. L. See Moszkowicz, M. J., 715
Rouse, G. B.
—; Risen, W. M., Jr.; Tsatsas, A. T.; Eisenberg, A.: Far-Infrared Studies of Ion Clustering in Ionomers, 81
Rudnick, J.
—; Taylor, P. L.; Litt, M.; Hopfinger, A. J.: Theory of Free Volume in Polymers, 311
Rudolph, F. B.
Diffusion in a Multicomponent Inhomogeneous System with Moving Boundaries. I. Swelling at Constant Volume, 1709

Runt, J. See Harrison, I. R., 63, 321
Russell, T. P. See Koberstein, J., 1719

Salaris, F. See Baird, D. G., 1649
Samuels, R. J.
High Strength Elastic Polypropylene, 535
Saruyama, Y.
—; Miyaji, H.; Asai, K.: Extra Meridional Reflections of Drawn Polyoxymethylene, 1163
Sasaki, S.
—; Nakamura, T.; Uematsu, I.: A Crystal Transition in Poly(γ-*n*-Alkyl L-Glutamate)s, 825
Sato, A. See Hirano, T., 1601
Sausen, E. See Holland-Moritz, K., 1, 25
Sayre, J. A. See Boyd, R. H., 1627
Schelten, J. See Kalepky, U., 2117
Scholtens, B. J. R.
—; Bijsterbosch, B. H.: Molecular Architecture and Physicochemical Properties of Some Vinyl Alcohol-Vinyl Acetate Copolymers, 1771
Schreiber, H. P. See Croucher, M. D., 1269
Schultz, J. See Shanahan, M. E. R., 705
Schultz, J. M. See McCready, M. J., 725
Schwarz, W. H. See Powell, R. L., 969
Shanahan, M. E. R.
—; Schultz, J.: Environmental Stress Cracking of Polyethylene: Criteria for Liquid Efficiency, 705
Shashikant, S. See Vyas, N. G., 2021
Shibayama, K. See Iisaka, K., 791
Shimizu, Y.
—; Akabane, H.; Tanioka, A.; Miyasaka, K.; Ishikawa, K.: Effects of Extension on the Gas Permeability of Hard Elastic Polypropylene Film, 1495
Shultz, A. R. See Tryson, G. R., 2059
Siegmann, A. See Narkis, M., 225
Silberberg, A. See Weiss, N., 2229
Silebi, C. A.
—; McHugh, A. J.: Effect of Nonhomogeneous Shear Rates on the Flow-Induced Crystallization of Flexible Macromolecules, 1469
Simha, R. See Jain, R. K., 1929
—; Jain, R. K.: Statistical Thermodynamics of Polymer Crystal and Melt (Erratum), 183
Smets, G. See Gryte, C. C., 1295
Smith, G. G. See Rachapudy, H., 1211; Raju, V. R., 1183; Rochefort, W. E., 1197
Smith, K. J., Jr. See Britton, A. T., Jr., 1281
Smith, T. L.
Evaluation of the Relaxation Modulus from the Response to a Constant Rate of Strain Followed by a Constant Strain, 2181
Sorenson, D. See Phillips, P. J., 521
Sowa, J. M. See Patel, G. N., 899
Stacy, C. J.
—; Kraus, G.: Second Virial Coefficients of Homopolymers and Copolymers of Butadiene and Styrene in Tetrahydrofuran, 2007
Stambaugh, B.
—; Lando, J. B.; Koenig, J. L.: Infrared Studies of the Reversible Stress-Induced Crystal-Crystal Phase Transition of Poly(Tetramethylene Terephthalate), 1063
—; Koenig, J. L.; Lando, J. B.: X-Ray Investigation of the Structure of Poly(Tetramethylene Terephthalate), 1053
Stamhuis, J. E.
—; Pennings, A. J.; Chanzy, H. D.: Shish-Kebab Structures of Nylon-6 Obtained from Quiescent Solutions by Application of Self-Seeding, 1033
Stanislow, L. J. See Harrison, I. R., 63
Starkweather, H. W., Jr.
A Comparison of the Rheological Properties of Polytetrafluoroethylene below Its Melting Point with Certain Low-Molecular Smectic States, 73
Stein, R. S. See Koberstein, J., 1719; Misra, A., 235
Stepaniak, R. F.
—; Garton, A.; Carlsson, D. J.; Wiles, D. M.: An Examination of the Crystal Structures Present in Nylon-6 Fibers, 987
Stevens, J. R. See Lindsey, C. P., 1547
Stolka, M. See Bergfjord, J. A., 711
Strakova, D. See Kratochvil, P., 945
Suehiro, S.
—; Yamada, T.; Inagaki, H.; Kyu, T.; Nomura, S.; Kawai, H.: Rheo-Optical Studies on the Deformation Mechanism of Semicrystalline Polymers. IV. On the Nature of Alpha Mechanical Dispersion of Low Density Polyethylene in Relation to the Mechanism of Spherulite Deformation, 763
Sullivan, J. L. See Britton, A. T., Jr., 1281
Szorek, R.
Ultrasonic Degradation of Polycaproamide in 40% Sulfuric Acid Solution, 939

Tadokoro, H. See Takahashi, Y., 123
Taga, T. See Krigbaum, W. R., 393
Takahashi, K. See Magoshi, J., 515
Takahashi, T.
—; Iwamoto, H.; Inoue, K.; Tsujimoto, I.: Quiescent and Strain-Induced Crystallization of Poly(*p*-Phenylene Terephthalamide) from Sulfuric Acid Solution, 115
Takahashi, Y.
—; Tadokoro, H.: Least-Squares Refinement of Molecular Structure of Polyoxymethylene, 123
Takayanagi, M. See Hayashi, S., 1995
Takeuchi, T. See Usami, T., 1413
Tanaka, G.
Application of the Pade Approximant Method to Excluded Volume Effects in Polymer Chains, 305
Tanioka, A. See Shimizu, Y., 1495
Tanner, D. W. See Goebel, K. D., 917
Tanny, G. B. See Cohen, C., 477
Taylor, P. L. See Rudnick, J., 311
Tealdi, A. See Bianchi, E., 2091
Theil, M. H.
—; Caviness, E. T.: Phase Transitions in Cellulose Solutions. The Kinetics of Precipitation of Cellulose from Diluted Cadoxen Solutions, 497
Tryson, G. R.
—; Shultz, A. R.: A Calorimetric Study of Acrylate Photopolymerization, 2059
Tsatsas, A. T. See Rouse, G. B., 81
Tsujimoto, I. See Takahashi, T., 115
Tsuruta, T. See Hirano, T., 1601

Uematsu, I. See Sasaki, S., 825
Uhlmann, D. R. See Kolbeck, A. G., 421
Usami, T.
—; Kosugi, Y.; Takeuchi, T.: Coisotactic Shift Contributions in ^{13}C NMR Spectra of Propylene/Butene-1 Copolymers, 1413

Van Vliet, T. See Weiss, N., 2229
Vayla, N. B. See Chapoy, L. L., 961
Vrentas, J. S.
—; Duda, J. L.: Diffusion of Large Penetrant Molecules in Amorphous Polymers, 1085
Vyas, N. G.
—; Shashikant, S.; Patel, C. K.; Patel, R. D.: Cellulose Acetate Butyrate in Solution. I. Hydrodynamic Behavior, 2021

Ward, I. M. See Brew, B., 351; Clements, J., 693; Nobbs, J. H., 259
Watanabe, T. See Ikada, E., 1789
Wegner, G. See Kalepky, U., 2117
Weiss, H. See Birnboim, M. H., 2225
Weiss, N.
—; Van Vliet, T.; Silberberg, A.: Permeability of Heterogeneous Gels, 2229
Wiles, D. M. See Stepaniak, R. F., 987
Willis, H. A. See Cutler, D. J., 907
Wunderlich, B. See Benkhoucha, R., 2151
Wunderlich, C. C. See Benkhoucha, R., 2151

Yamada, T. See Suehiro, S., 763
Yamakawa, S. See Yamamoto, F., 1581
Yamamoto, F.
—; Yamakawa, S.: Surface Grafting of Polyethylene by Mutual Irradiation in Methyl Acrylate Vapor. III. Quantitative Surface Analysis by X-Ray Photoelectron Spectroscopy, 1581

Yee, K. C. See Banerjie, A., 655
Yemni, T.
—; Boyd, R. H.: Dielectric Relaxation in the Odd-Numbered Polyamides: Nylon 7-7 and Nylon 11, 741
Yoon, D. Y. See Gipstein, E., 185
Young, R. J.
—; Dulniak, R.; Batchelder, D. N.; Bloor, D.: Twinning in Macroscopic Polymer Single Crystals, 1325

Zachariades, A. E. See Kanamoto, T., 2171
Zapas, L. J. See Coleman, B. D., 2215
Zarian, J. See Coleman, M. M., 837
Zwijnenburg, A. See Pennings, A. J., 1011

Subject Index to Volume 17

Notes and Errata are denoted by the letters N and E, respectively, following the page number.

Analysis of polymer conversions for urethane-substituted diacetylenes 899(N)
Anisotropic flow of smectic phases, 73
Anisotropic solvents, viscosity of polymers in, 1367
Anisotropy, dielectric, of nylons, 741
Anisotropy of compressibility of polymer crystals, 1237
Annealing and formation of high strength elastic polypropylene, 535
Annealing of polyethylene, 357
Avrami equation, extensions of, 951

Birefringence, intrinsic, of poly(ethylene terephthalate), 1307
Birefringence and optical relaxation of polyethylene, 763
Birefringence in amorphous polyethylene terephthalate fibers, 531(N)
Birefringence in oriented atactic polystyrene, 799
Birefringence in stressed networks, 1855
Birefringence of crazes in polystyrene, 1417
Birefringence of highly oriented polyethylene, 859
Birefringence of poly(terephthalamide–hydrazide) in flow, 1649
Blends, poly(ϵ-caprolactone)–poly(vinyl chloride), infrared spectra of, 837
Block elastomers, segmented, morphology of, 1465(N)

Calorimetry of polyfluorocarbons, 87
Catalytic hydrogenation of polybutadiene, 1211
Cellulose, NMR study of water species in, 199
—, precipitation from cadoxen solutions of, 497
Cellulose acetate, intermolecular aggregation in films of, 917
Cellulose acetate butyrate, solution properties of, 2021
Chain conformation and coordinated motions, 173(N)
Chain conformation and diffusion of gases in polymers, 453, 465
Chain conformation defects in polyethylene, 1627
Chain conformation in Brownian motion, 131
Chain conformation of poly(1,3–dioxepane), 2013
Chain conformations ir *n*-paraffins and polymers, 2163
Chain conformations of block copolymers, 2133
Chain dimensions of polystyrenes in chloroparaffins, 213
Chain dimensions of poly(vinyl acetate) in concentrated solutions, 1825
Chain dynamics in concentrated polymer solutions, 1983
Chain dynamics in polyethers, 147
Chain dynamics in polymer melts, 1971
Chain-end mobility in polystyrenes, 961
Chain folding in polyethylene, 491
Chain folding in poly(vinyl chloride), 753
Chain interactions in solution, Rayleigh scattering affected by (theory), 2077
Chain length in poly(propylene glycols), dielectric properties and, 1789
Chain mobility of terephthalate polyesters in solution, 45
Chain motion in long chain molecules and polymers, hydrogen bonding effects on, 1457
Chain motion in solid-state polymerization of diacetylenes, 1355
Chain motions in diacetylene polymer crystal, 569
Chain orientation in atactic polystyrene, 799
Colloid stability in polymer solutions (theory), 1073
Compatibility of mixed polymers in solution, 945
Conformational changes in silk fibroin induced by water, 515
Co[poly(ethylene terephthalate)-*p*-oxybenzoate], thermal behavior of, 1661
Copolymerization of coupling agent with styrene at glass filler interface, 615
Copolymers, AB and ABA blocks, chain conformations of, 2133
—, acrylonitrile–sodium methallylsulfonate, characterization of, 673
—, butadiene–styrene, second virial coefficients of, 2007
—, ethylene-co-vinyl alcohol–ethylene oxide graft, solution behavior of, 645
—, propylene-butene-1, ^{13}C NMR spectra of, 1413
—, semicrystalline, neutron and x-ray scattering in, 2117
—, styrene-acrylonitrile, diffusion coefficients of, 583
—, styrene-sodium methacrylate, Raman spectra of, 2145
—, surface grafts on polyethylene, 1581
—, vinyl alcohol-vinyl acetate, characterization of, 1771
Cracking of polyethylene in liquids, 705
Craze appearance and mechanical properties of polysulfone, 1275(N)
Craze deformation of glassy polymers as cause of creep, 663
Crazes in polystyrene, electron diffraction of, 1431
—, optical birefringence of, 1417
Crazing of polystyrene in alcohols, 791
Creep recovery in bimodal molecular weight blends of polystyrene, 1871
Crosslinked polymers, chain-end mobility in polystyrene gels, 961
—, stress-strain in, 1855
Crystalline polymers, stress transfer in, 1375
Crystalline transitions in nylon 6 fibers, 987
Crystallinity, small-angle neutron and x-ray scattering criteria for, 2117
Crystallinity and equation of state, 1929
Crystallinity of branched polyethylene, 1913
Crystallinity of elastic polypropylene, 535
Crystallinity of polyethylene, 63
Crystallinity of poly(ethylene terephthalate), 1307
Crystallinity of rapidly crystallized polymers, 1341
Crystallinity of stressed poly(ethylene terephthalate), 235
Crystallinity of swollen poly(vinyl alcohol), 1507
Crystallites in gels of poly(ethylene terephthalate-co-isophthalate), 1251
Crystallites in polyethylene terephthalate fibers, 179(N)
Crystallization, eutectic, in polyoxyethylene-glutaric acid system, 1295
—, fibrillar growth in polyethylene, 1011
—, flow-induced, 1469
—, stress-induced, 1469
Crystallization at large undercoolings, 1341
Crystallization in guayule rubber, 521(N)
Crystallization in oriented polyethylene/polypropylene, 1957

Crystallization in polymer melts, model for, 951
Crystallization of isotactic polystyrene, 393
Crystallization of lithium polyphosphate, 2151
Crystallization of low-density polyethylene, 1947
Crystallization of nylon 6, 103
Crystallization of plasticized polycarbonate, 1171
Crystallization of polyethylene from the melt, 725
Crystallization of poly(*p*-phenylene terephthalamide), 115
Crystallized additives in polystyrene, 225
Crystal packing in poly(vinyl chloride), 753
Crystal phase transition of poly(tetramethylene terephthalate), 1063
Crystals, twinning in diacetylenic polymer solids, 1325
Crystal size and disorder from Fourier analysis of x-ray diffraction, 1001
Crystals of polyethylene, fold surface density of, 491
Crystals of polymers, evaluation of mosaic model for, 1797
Crystal-strain in oriented polyoxymethylene, 351
Crystal structure of cyclotetradiyne monomer and polymer, 655
Crystal structure of α phase of poly(tetramethylene terephthalate), 1053
Crystal structure of polyoxymethylene, 123
Crystal transition in poly(γ-*n*-alkyl L-glutamate)s, 825

Deformation, gas permeability affected by, 1495
—, void formation in, 1611
Deformation energy of partially crystallized copolymers, 1531
Deformation in solid-state extrusion, 2171
Deformation mechanisms in oriented polyethylene, 357
Deformation mechanisms in polyethylene, 859
Deformation of cellulose acetate in films, 917
Deformation of crystals through twinning in poly(TSHD), 1325
Deformation of hard elastic polypropylene, 535
Deformation of polyethylene crystals, 1043
Deformation of polystyrene crystals, 1043
Degradation, ultrasonic, of polycaproamide in aqueous sulfuric acid, 939
Densities of highly oriented polyethylene, 859
Density of melt-crystallized polyethylene, 725
Destabilization of colloids in polymer solutions (theory), 1073
Diacetylene polymers, strain dependence of vibrational modes in, 569
Diacetylenes, urethane-substituted, radiation polymerization of, 899(N)
Dielectric properties of polyformals, 2013
Dielectric properties of propylene glycol oligomers, 1789
Dielectric relaxation, 1485
—, correlated with glass-transition temperature, 409
Dielectric relaxation in polyethylene, 1627
Dielectric relaxation in poly(2-hydroxyethyl methacrylate), 1395
Dielectric relaxation in solid poly(L-histidine), 379
Dielectric relaxation of nylon 11, 741
Dielectric relaxation of nylon 7-7, 741
Dielectric relaxation of polydimethylsiloxane, 851
Diepoxide–diamine network polymers, 1557, 1571
Differential scanning calorimetry (DSC) of copolyester, 1661
Differential scanning calorimetry (DSC) of fibrillar polyethylene, 1011
Differential scanning calorimetry (DSC) of gels of poly(ethylene terephthalate-co-isophthalate), 1251
Differential scanning calorimetry (DSC) of glassy polyethylene, 907
Differential scanning calorimetry (DSC) of low-density polyethylene, 1947
Differential scanning calorimetry (DSC) of nylon 6 crystals, 103
Differential scanning calorimetry (DSC) of photopolymerization of acrylates, 2059
Differential scanning calorimetry (DSC) of poly(cyclohexyl methacrylate), 189, 321, 1295, 1591, 2151
Differential scanning calorimetry (DSC) of ring-containing polyamides, 1517
Differential scanning calorimetry (DCS) of silk fibroin, 515
Differential scanning calorimetry (DSC) of solid-state extruded polyethylene, 421
Differential scanning calorimetry (DSC) of suspended polyethylene crystals, 63
Differential scanning calorimetry of drawn polyethylene, 693
Differential thermal analysis (DTA) of polydimethylsiloxane, 851
Differential thermal analysis (DTA) of vinyl alcohol-vinyl acetate copolymers, 1771
Diffusion activation energies for gases in polymers, 453, 465
Diffusion and coordinated chain motions, 173(N)
Diffusion coefficient of gases in polymers (theory), 437
Diffusion coefficients of polymers in dilute solution, solvent effect on, 583
Diffusion-controlled formation of porous films, 477
Diffusion induced phase separation in cast films, 477
Diffusion in multicomponent inhomogeneous system, 1709
Diffusion into sheets and spheres, 1741
Diffusion of interacting Brownian particles, inertial effects on, 1317
Diffusion of large penetrants in amorphous polymers, 1085
Diffusion of penetrants in polymers, 1675, 1693
Diffusion with discontinuous swelling, 1741
Dilatometry of precipitation of cellulose from solution, 497
Drawing of polyethylene, void formation and moduli in, 1611
Dynamical mechanical properties of polystyrene in tricresyl phosphate, 2189
Dynamic mechanical properties of episulfide networks, 329
Dynamic mechanical properties of filled polymers, 1897
Dynamic mechanical properties of polyoxymethylene, 351
Dynamic mechanical properties of semicrystalline polyethylene, 763

Elasticity as indicator of transitions, 1891
Electric field effects on phase equilibria of polymer–polymer mixtures, 371
Electron diffraction criterion for crystal deformations, 1797
Electron diffraction of crazes in polystyrene, 1431
Electron microscopy of crystal growth in polystyrene, 55
Electron microscopy of crystallized additives in polystyrene, 225
Electron microscopy of deformed polyethylene and polystyrene crystals, 1043
Electron microscopy of etched polyolefines, 627
Electron microscopy of fibrillar polyethylene, 1011
Electron microscopy of guayule rubber, 521(N)
Electron microscopy of lithium polyphosphate, 2151
Electron microscopy of nylon 6 crystals, 103
Electron microscopy of nylon 6 crystals from butanediol solution, 1033
Electron microscopy of oriented polyethylene film, 1637
Electron microscopy of poly(phenylene terephthalamide) crystals, 115
Electron microscopy of solid-state extruded polyethylene, 421
Electron microscopy of twinning in poly(TSHD), 1325
Electron microscopy of ultradrawn polyethylene, 525(N)
Episulfide polymer networks, mechanical relaxations in, 329
Errata, 183, 185
Ethylene copolymers, thermodynamics of networks of, 1531
Ethylene-co-vinyl alcohol–ethylene oxide graft copolymers, solution behavior of, 645

Excimer formation in polystyrene and polymethylstyrene, 811
Excluded volume effects, 305
Excluded volume of aromatic polyamide-hydrazide, 2091
Extrusion, solid-state, effects of geometry and molecular weight on, 2171
—, solid state, of polyethylene, 421

Filled polymers, coupling agent interphase in, 1807
—, dynamic mechanical properties of, 1897
—, infrared study of coupling agent/matrix interface in glass reinforced resin, 615
Film, polymer, friction with rubber, 2241
Film growth from solution, 1637
Fluorescence spectroscopy of polystyrene and polymethylstyrenes, 811
Fluorescence spectroscopy of polystyrene gels, 961
Free-volume diffusion theory applied to large solvent molecules, 1085
Free volume in polymers, theory, 311
Friction coefficient for paper and film on rubber, 2241

Gas chromatographic study of solvent sorption in surface of poly(methyl methacrylate), 1269(N)
Gas chromatography of poly(cyclohexyl methacrylate), 189
Gelation and crystallization of poly(ethylene terephthalate-co-isophthalate), 1251
Gelation in multifunctional polycondensation (theory), 273
—, theory, 295
Gel permeation chromatography (GPC) of diepoxide–diamine polymers, 1571
Gel permeation chromatography (GPC) of hydrogenated polybutadienes, 1211
Gel permeation chromatography (GPC) of polyelectrolytes in DMF, effect of distribution of salt on elution, 673
Gel permeation chromatography (GPC) of poly(spiro[2,4]hepta-4,6-diene), 1995
Gel permeation chromatography (GPC) of poly(styrene-co-divinylbenzene) microgels, 1403
Glass transition, 1965, 2031
—, electric field dependence of, 169(N)
Glass transition from inverse gas chromatography, 189
Glass transition in linear polyethylene, 907
Glass transition–molecular weight relation for poly(*N*-vinylcarbazole), 711(N)
Glass transition of ring-containing polyamides, 1517
Glass-transition phenomena, multiparameter model for, 1097
Glass-transition temperature from dielectric relaxation data, 409
Glassy polymers, 1995
—, light scattering and depolarization in, 719(N)
—, relaxation in, 597
Glassy-state relaxations from vapor sorption data, 1757

Heat of fusion of polymer crystals, 63
Hydrodynamics in concentrated polymer solutions, 1983
Hydrogenation of polybutadiene, 1211, 1211

Infrared dichroism in poly(ethylene terephthalate), 259
Infrared dichroism of oriented atactic polystyrene, 799
Infrared spectra in glass-filled resin with coupling agent, 615
Infrared spectra of blends of poly(ϵ-caprolactone) and poly(vinyl chloride), 837
Infrared spectra of brominated polyethylene single crystals, 893(N)
Infrared spectra of coupling agent interphase, 1807
Infrared spectra of crystal phases of poly(tetramethylene terephthalate), 1063
Infrared spectra of polyisocyanide solutions, 683
Infrared spectra of polymerized cyclotetradiyne, 655
Infrared spectra of polystyrene methacrylic acid ionomers, 81
Infrared spectra of silk fibroin, 515
Infrared spectra of vinyl alcohol-vinyl acetate copolymers, 1771
Intrinsic viscosity–molecular weight dependence for broad range of polystyrene, 2103
Intrinsic viscosity of acrylonitrile–sodium methallylsulfonate copolymers, 673
Intrinsic viscosity of cellulose acetate butyrate, 2021
Intrinsic viscosity of copolyester, 1661
Intrinsic viscosity of hydrogenated polybutadienes, 1211
Intrinsic viscosity of hydrophobic-hydrophilic graft copolymers, temperature effects on, 645
Intrinsic viscosity of polyethylene, 1183
Intrinsic viscosity of poly(propylene sulfide), 1623(N)
Intrinsic viscosity of poly(spiro[2,4]hepta-4,6-diene), 1995
Intrinsic viscosity of polystyrene, 2103
Intrinsic viscosity of polystyrene in presence of dissolved polybutadiene, 715(N)
Intrinsic viscosity of polystyrenes in chloroparaffins, 213
Intrinsic viscosity of vinyl alcohol-vinyl acetate copolymers, 1771
Ion clustering in ionomers, 81
Ion clusters in styrene-sodium methacrylate copolymers, 2145

Kinetics of bulk photopolymerization of acrylates, 2059
Kinetics of craze initiation in polystyrene, 791
Kinetics of crystallization from the melt, 1341
Kinetics of precipitation of cellulose from solution, 497
Kinetics of spherulite growth in plasticized polycarbonate, 1171
Kinetics of two-phase bulk polymerization, 715(N)

Light beating spectroscopy, See quasielastic light scattering,
Light scattering by glassy polystyrene, 719(N)
Light scattering from branched polyethylene, 1913
Light scattering from cellulose acetate films and concentrated solutions, 917
Light scattering from dilute solutions of mixed polymers, 945
Light scattering from poly(ethylene terephthalate), 235
Light scattering from polymeric solids, 1719
Light scattering from poly(styrene-co-divinylbenzene) microgels, 1403
Light scattering in solution of acrylonitrile–sodium methallylsulfonate copolymers, 673
Light scattering in solution of butadiene and styrene polymers and copolymers, 2007
Light scattering in solution of flexible chains (theory), 2077
Light scattering in solutions of aromatic polyamide-hydrazide, 2091
Light scattering of polystyrenes in chloroparaffins, 213
Liquid crystals in solutions of polyisocyanides, 683

Mechanical behavior of crystalline polymers, stress transmission in, 1375
Mechanical properties of crazed polysulfone, 1275(N)
Mechanical properties of drawn poly(caproamide)-salt fibers, 1903
Mechanical properties of elastic polypropylene, 535
Mechanical properties of highly oriented polyethylene, 859
Mechanical properties of melt-crystallized polyethylene, 725
Mechanical properties of slightly compressible elastomers, 345

Mechanical properties of solid-state extruded polyethylene, 421
Mechanical properties of ultradrawn polyethylene, 1611
Mechanical relaxation related to molecular weight, 1871
Melting and crystallization of eutectic-forming binary system, 1295
Melting behavior of highly oriented polyethylene, 859
Melting behavior of linear polyethylene, 693
Melting behavior of lithium polyphosphate, 2151
Melting behavior of low-density polyethylene, 1947
Melting behavior of polyethylene, 321
Melting behavior of solid-state extruded polyethylene, 421
Melting of fibrillar polyethylene crystals, 1011
Melts, chain dynamics in, 1971
Melt viscosity of hydrogenated polybutadienes, 1211
Membranes, diffusion-controlled formation in ternary systems, 477
Molecular motion, simulation of coordination in, 173(N)
Molecular motion and chain conformation, 131
Molecular motion in poly(L-histidine), 379
Molecular motion of polyether chains, 147
Molecular orientation in drawn poly(ethylene terephthalate), 259
Molecular weight averages, 2111
Molecular weight distribution of cellulose acetate butyrate, 2021
Molecular-weight distribution of polyelectrolyte copolymers, 673
Molecular weight distributions and average molecular weights, 2111
Molecular weight of poly(*N*-vinylcarbazole), relation to glass transition, 711(N)
Morphology of branched polyethylene, 1913
Morphology of nylon 6 crystallized from butanediol, 1033
Morphology of polyolefines, degradation study of, 627
Morphology of polystyrene with additives, 225
Morphology of segmented block elastomers, 1465(N)
Morphology of ultradrawn polyethylene, 525(N)

Network formation in poly(ethylene terephthalate-co-isophthalate) solutions, 1251
Networks, permeability of heterogeneous polyacrylamide, 2229
—, poly(styrene-co-divinylbenzene) microgels, 1403
—, reactivity and gelation in, 273, 295
—, relaxations in, 329
—, swollen, of polystyrene with pendent chains, 1441
—, swollen, thermoelasticity of, 1281
—, thermodynamics of deformed cluster model of, 1531
Networks of diepoxide–diamine polymers, 1557, 1571
Networks of 1,2-polybutadiene, 1855
Networks of poly(dimethylsiloxane), wide-range stress–strain relations in, 1845
Neutron scattering from semicrystalline copolymers, 2117
Nuclear magnetic resonance (NMR) of polyisocyanides, 683
Nuclear magnetic resonance (NMR) of propylene/butene-1 copolymers, 1413
Nuclear magnetic resonance (NMR) of segmented block elastomers, 1465(N)
Nuclear magnetic resonance (NMR) of solid poly(L-histidine), 379
Nuclear magnetic resonance (NMR) of solutions of terephthalate polyesters, 45, 645
Nuclear magnetic resonance (NMR) of water in cellulose, 199
Nylon 6, crystal structures in fibers of, 987
—, mechanical properties of mixtures with salts, 1903
—, morphology of crystals from butanediol solution of, 1033
—, solution crystallization of, 103
—, x-ray diffraction under hydrostatic pressure, 1237
Nylons, dielectric relaxation of odd-numbered, 741

Optical absorption spectra of polydiacetylenes, 1591
Optical microscopy of fibrillar polyethylene, 1011
Optical microscopy of poly(ethylene terephthalate), 235
Optical microscopy of spherulite growth rates in polycarbonate, 1171
Optical properties of solid-state extruded polyethylene, 421
Optical rotatory dispersion spectra of poly[(*R*)-oxypropylene], 1601
Orientation distribution of crystallites, 179(N)
Oriented polymers from solution, 1957
Osmometry of cellulose acetate butyrate, 2021
Osmometry of poly(spiro[2,4]hepta-4,6-diene), 1995

Paper, friction with rubber, 2241
Permeability of heterogeneous gels, 2229
Permeation of gases in polypropylene, 1495
Phase equilibria in polystyrene with additives, 225
Phase separation in cellulose solutions, 497
Phase separation in nonsolvent-solvent-polymer systems, 477
Phase separation in polymer–polymer mixtures, 371
Photon correlation spectroscopy, See quasielastic light scattering,
Photopolymerization of acrylates in bulk, 2059
Polyacrylates, bulk photopolymerization production of, 2059
Polyacrylate solutions, dielectric properties of, 1485
Polyacrylonitrile, infrared spectra after degradation, 165(N)
—, thermal degradation, 165(N)
Poly(γ-alkyl L-glutamate)s, x-ray study of crystal transition in, 825
Polyamide-hydrazide, Monsanto X-500, light scattering study of, 2091
Polyamides, ring-containing, thermal properties of, 1517
Polybutadiene, hydrogenated, physical properties of, 1211
—, hydrogenated, rheology of melts of linear and star-branched samples of, 1223
—, rheology of linear and star-branched samples of, 1197
—, second virial coefficients of, 2007
—, stress-birefringence in, 1855
Poly(butyl acrylates), dielectric relaxation in, 1485
Poly(butylene terephthalate), NMR, 45
Poly(caproamide), mechanical properties of mixtures with salts, 1903
—, ultrasonic degradation in acid solution, 939
Poly(ε-caprolactone), infrared spectra of blends of, 837
Polycarbonate, creep deformation in solvent crazing of, 663
—, crystallization kinetics in plasticized samples of, 1171
Poly(cyclohexyl methacrylate), inverse gas chromatography of, 189
Poly(diacetylene), crystal twinning in poly(TSHD), 1325
—, partially polymerized, characterization of, 1591
—, solid-state polymerization of, 655
Polydiacetylenes, thermal polymerization in solid state of, 1355
Polydimethylsiloxane, dielectric relaxation of, 851
—, diffusion of gases in, 453
—, stress–strain relations in networks of, 1845
Poly(1,3-dioxepane), dipole moments of, 2013
Polyesters of terephthalate acid, chain mobility of, 45
Polyethers, chain dynamics of, 147
—, model for chain motion in, 131
Polyethylene, brominated, infrared spectra of, 893(N)
—, deformation and structure of, 357
—, diffusion of gases in, 453
—, environmental stress cracking in liquids, 705

—, equation of state of semicrystalline, 1929
—, fold surface density of crystals of, 491
—, glass transition in, 907
—, irradiation grafting on surface of, 1581
—, low-density, DSC of, 1947
—, melt crystallization of, 725
—, melting behavior, 321
—, melting behavior of, 693
—, melting behavior of fibrillar crystals, 1011
—, melt viscosity of fractions of, 1183
—, morphology and properties of branched, 1913
—, oriented film from solutions of, 1637
—, permanganic etching of, 627
—, physical and mechanical properties of highly oriented fibers of, 859
—, plastic deformation of crystals of, 1043
—, properties of solid-state extrudates of, 421
—, rheo-optical study of, 763
—, solid-state coextrusion of, 2171
—, structure of highly drawn fibers of, 525(N)
—, thermal creation of defects in, 1627
—, ultradrawn, mechanical properties of, 1611
Polyethylene blends with polypropylene, oriented films and fibers of, 1957
Polyethylene crystals, heat of fusion of, 63
Poly(ethylene glycol), equation of state of semicrystalline, 1929
Poly(ethylene terephthalate), birefringence in fibers of, 531(N)
—, crystallite orientation, 179(N)
—, diffusion of gases in, 453
—, fluorescence polarization and orientation in, 259
—, intrinsic birefringence of, 1307
—, NMR, 45
—, stress-induced crystallization of, 235
Poly(ethylene terephthalate-co-isophthalate), crystal nature of gels of, 1251
Poly(ethyl ethylene), infrared spectra, 1
—, Raman spectra, 1
Poly(ethyl methacrylate), diffusion of gases in, 465
Poly(hexamethylene terephthalate), NMR, 45
Poly(2-hydroxyethyl methacrylate), dielectric relaxation in, 1395
Polyisobutylene, diffusion of gases in, 453
Polyisocyanides, mesomorphic structures in concentrated solutions of, 683
Polyisoprene, crystallization in guayule-derived films of, 521(N)
—, diffusion of gases in, 453
Poly(methyl methacrylate), gas chromatographic study of sorption of solvents in, 1269(N)
—, interaction with polystyrene in solutions of, 945
Polymethylstyrene, steric effects on excimer formation in, 811
Poly(L-histidine), molecular motion in solid state of, 379
Polyolefines, degradation with permanganic etchant, 627
Polyoxyethylene, crystallization and melting behavior with glutaric acid, 1295
Polyoxymethylene, crystal modulus of, 351
—, crystal structure, 123
—, dynamic mechanical properties of, 351
—, elastic rebound and transitions in, 1891
—, x-ray diffraction of, 1163
Poly[(*R*)-oxypropylene], rotatory dispersion and dichroism of, 1601
Poly(*p*-phenylene terephthalamide), crystallized from sulfuric acid, 115
Polyphosphate crystals, melting behavior of, 2151
Polypropylene, diffusion of gases in, 465
—, hard elastic fibers of, 535
—, permanganic etching of, 627
—, stretched, gas permeation in, 1495
—, vapor-induced depolarization currents in, 95
Poly(propylene glycol), dielectric properties of oligomers of, 1789
—, equation of state of semicrystailine, 1929
Poly(propylene sulfide), intrinsic viscosity of, 1623(N)
Poly(propylene terephthalate), NMR, 45
Poly(propyl ethylene), infrared spectra, 25
—, Raman spectra, 25
Poly(spiro[2,4]hepta-4,6-diene), characterization of, 1995
Polystyrene, alcohol initiation of crazes in, 791
—, crystal nucleation in, 55
—, diffusion of gases in, 465
—, electron diffraction of crazes in, 1431
—, infrared dichroism and birefringence of, 799
—, interaction with poly(methyl methacrylate) in solutions of, 945
—, intrinsic viscosity of, 2103
—, light scattering study of relaxations in, 1547
—, mechanical behavior of bimodal molecular weight blends of, 1871
—, optical birefringence of crazes in, 1417
—, orientation of amorphous chains in, 393
—, phase equilibria of additives in, 225
—, plastic deformation of crystals of, 1043
—, relaxation in, 597
—, second virial coefficient of, 2007
—, solvent effect on diffusion coefficient of, 583
—, steric effects on excimer formation in, 811
—, vapor sorption in, 1757
Polystyrene-chloranil complex, thermally stimulated discharge currents in, 1731
Poly(styrene-co-divinylbenzene) microgels, characterization of, 1403
Polystyrene methacrylic acid ionomers, infrared spectra, 81
Polystyrenes, chain-end mobility in gels of, 961
—, hydrodynamic interactions in chloroparaffins, 213
Polysulfone, craze appearance and mechanical properties of, 1275(N)
Poly(terephthalamide–hydrazide), rheology of, 1649
Polytetrafluoroethylene, heat capacity, 87
—, rheology, 73
Poly(tetrahydrofuran), equation of state of semicrystalline, 1929
Poly(tetramethylene terephthalate), infrared spectra of, 1063
—, x-ray diffraction of, 1053
Poly(vinyl acetate), diffusion of gases in, 465
—, viscosity in concentrated solutions of, 1825
Poly(vinyl alcohol), swollen, crystallinity of, 1507
—, thermoelasticity of swollen networks of, 1281
—, x-ray diffraction under hydrostatic pressure, 1237
Poly(*N*-vinylcarbazole), glass transition and molecular weight of, 711(N)
Poly(vinyl chloride), chain folding in, 753
—, creep deformation in solvent crazing of, 663
—, diffusion of gases in, 465
—, infrared spectra of blends of, 837
—, vapor sorption in, 1757
Poly(vinylidene fluoride), heat capacity, 87

Quasi-elastic light scattering, determination of fluid viscosity from, 2225
—, relaxations in polystyrene from, 1547
Quasielastic light scattering from crosslinked poly(styrene-co-divinylbenzene) microgels, 1403
Quasielastic light scattering from polystyrene and styrene-acrylonitrile copolymer, 583
Quasielastic light scattering from swollen networks of polystyrene, 1441

Raman polarization in poly(ethylene terephthalate), 259
Raman spectra of coupling agent interphase, 1807
Raman spectra of diacetylene polymer, 569
Raman spectra of glassy polyethylene, 907
Raman spectra of *n*-paraffins and polymers, 2163
Raman spectra of polytetrahydrofuran, 1457
Raman spectra of poly(vinyl alcohol), 1507
Raman spectra of stearyl alcohol, 1457
Raman spectra of styrene-sodium methacrylate copolymers, 2145
Raman spectra of thermally polymerized diacetylenes, 1355
Refractive index of solutions of poly(1,3–dioxepane), 2013
Relaxation and coordinated chain motions, 173(N)
Relaxation in polystyrene, 1547
Relaxation in semicrystalline polyethylene, 763

Relaxation in the glassy state, 597
Relaxation of dipoles in polystyrene-chloranil complex, 1731
Relaxations in episulfide network polymers, 329
Relaxation spectrograph, 1891
Rubber, friction against paper and film, 2241
Rubbery polymers, elastic potential function of, 345

Scattering of light and neutrons from solutions of diffusing macroparticles, 1317
Second virial coefficient, 305, 2007, 2021, 2091
Second virial coefficient for interaction of unlike species, 945
Shear flow of polytetrafluoroethylene below melting point, 73
Silk fibroin, conformational changes induced by wetting of, 515
Solidification of polymers, 1965
Solid-state polymerization of cyclotetradiyne, 655
Solid-state polymerization of diacetylenes, 1355
Sonic modulus of poly(ethylene terephthalate), 1307
Sorption in glassy polymers, 1741, 1757
Sorption of alcohols in polystyrene films, 791
Sorption of solvents in poly(methyl methacrylate) films, 1269(N)
Sorption of solvent vapor and charge decay of electrets, 95
Sorption probes for T_g from inverse GC, 189
Spherulite deformation in polyethylene, 763
Spherulitic growth rate in plasticized polycarbonate, 1171
Statistical mechanics, excluded volume effects, 305
—, free volume fluctuations and relaxation, 597
—, free volume in polymers, 311
—, model for diffusion of penetrants in polymers, 437
Statistical mechanics of chains in block copolymers, 2133
Statistical mechanics of chains in polymer melts, 1971
Statistical mechanics of penetrant diffusion, 1675, 1693
Statistical mechanics of perturbed chains, 213
Statistical mechanics of transport in concentrated solutions of polymers, 1983
Statistical thermodynamics of polymer crystal and melt, 183(C)
Statistical thermodynamics of polymer solutions, 2077
Strain birefringence in poly(ethylene terephthalate), 235
Strain-induced crystallization of poly(*p*-phenylene terephthalamide), 115
Stress-induced crystallization of poly(ethylene terephthalate), 235
Stress relaxation and strain history, 2181
Stress relaxation in fibrillar polyethylene, 1011
Stress-strain and failure of viscoelastic materials (theory), 2215
Stress-strain relations in crazed polymers, 663
Stress-strain relations in elastic polypropylene, 535
Stress-strain relations in swollen networks of polystyrene, 1441
Stress-strain relations of slightly compressible elastomers, 345
Stress–strain relations over wide range in crosslinked poly(dimethylsiloxane), 1845
Stress transmission in crystalline polymers, 1375
Styrene-acrylonitrile copolymer, solvent effect on diffusion coefficient of, 583
Surface grafts, ESCA study of, 1581
Surface roughness, effect on rubber friction with paper and film, 2241
Swelling and thermoelastic behavior of poly(vinyl alcohol), 1281
Swelling at constant volume, 1709
Swelling in heterogeneous networks, 2229
Swelling of cellulose acetate films, 917

Tensile creep and recovery of cellulose acetate films, 917
Thermal behavior of glasses, 2031
Thermal degradation of polydeuteroacrylonitrile, 165(N)
Thermally stimulated discharge currents, 1731
—, effect of solvent vapor on, 95
Thermal properties of poly(α-methyl styrenes), 185(C)
Thermodynamic equation of state of semicrystalline and crystalline polymers, 1929
Thermodynamic parameters, heat capacity of polyfluorocarbons, 87
—, heat capacity of swollen copolymers of ethylene, 1531
Thermodynamic properties of branched polyethylene, 1913
Thermodynamic properties of swollen networks of polystyrene with pendent chains, 1441
Thermodynamics, irreversible, in polymer solidification, 1965
—, nonequilibrium, theory for time dependent glass-transition phenomena, 1097
Transitions in poly(oxymethylene), 1891

Ultraviolet spectra of poly[(*R*)-oxypropylene], circular dichroism of, 1601

Vibrational modes of strained crystalline diacetylene polymer, 569
Vibrational spectra of poly(ethyl ethylene), 1
Vibrational spectra of poly(propyl propylene), 25
Viscoelastic fluids, comparison of cone-and-plate and parallel-plate rheological data for, 969
Viscoelasticity of glassy polydiene, 1995
Viscoelasticity of hydrogenated polybutadiene melts, 1223
Viscoelasticity of linear and star-branched polybutadienes, 1197
Viscoelasticity of linear polyethylene fractions, 1183
Viscoelasticity of swollen networks of polystyrene with pendent chains, 1441
Viscoelastic materials, failure in tension (theory), 2215
Viscoelastic properties, creep and recovery of polystyrene in tricresyl phosphate solutions, 2189
—, recoverable compliance of polystyrene blends, 1871
—, stress relaxation and strain history, 2181
Viscometer, parallel-plate, geometric effects on flow behavior observed with, 969
Viscosities of dilute polymer solutions in nematic liquids, 1367
Viscosity, shear-dependent, from parallel-plate data, 969
Viscosity measurements at high pressures, 2225
Viscosity of linear and star-branched hydrogenated polybutadiene melts, 1223
Viscosity of linear and star-branched polybutadiene, 1197
Viscosity of linear polyethylene fractions, 1183
Viscosity of poly(terephthalamide–hydrazide), 1649
Viscosity of poly(vinyl acetate) in concentrated solutions, 1825
Viscosity of solutions of poly(styrene-co-divinylbenzene) microgels, 1403

X-ray diffraction, dynamic, of semicrystalline polyethylene, 763
—, small angle, of cellulose acetate films, 917
—, small angle, of highly oriented polyethylene, 859
—, small angle, of melt-crystallized polyethylene, 725
—, small angle, of solid-state extruded polyethylene, 421
—, small angle, of strained polyethylene, 357
—, wide angle, of cellulose acetate films, 917
—, wide angle, of fibrillar polyethylene, 1011
—, wide angle, of gels of poly(ethylene terephthalate-co-isophthalate), 1251
—, wide angle, of highly oriented polyethylene, 859
—, wide angle, of nylon 6, 987
—, wide angle, of nylon 6 crystals, 103

—, wide angle, of polystyrene, 393
—, wide angle, of silk fibroin, 515
—, wide angle, of stress-induced crystallization, 235
X-ray diffraction of compressed nylon 6, 1237
X-ray diffraction of compressed poly(vinyl alcohol), 1237
X-ray diffraction of drawn polyoxymethylene, 1163
X-ray diffraction of glassy polyethylene, 907
X-ray diffraction of poly(γ-alkyl L-glutamate)s, 825
X-ray diffraction of polymerized cyclotetradiyne, 655
X-ray diffraction of polyoxymethylene, 123
X-ray diffraction of poly(tetramethylene terephthalate), 1053
X-ray diffraction patterns of polymers, Fourier analysis of, 1001
X-ray photoelectron spectroscopy (ESCA) of surface grafts, 1581
X-ray scattering from semicrystalline copolymers, 2117